GPs' attitudes to benzodiazepine and 'Z-drug' prescribing:
a barrier to implementation of evidence and guidance on hypnotics

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ABSTRACT

Zaleplon, zolpidem, and zopiclone ('Z-drugs') prescribing is gradually rising in the UK, while that of benzodiazepine hypnotics is falling. This situation is contrary to current evidence and guidance on hypnotic prescribing. The aim of this study was to determine and compare primary care physicians' perceptions of benefits and risks of benzodiazepine and Z-drug use, and physicians' prescribing behaviour in relation to hypnotics using a cross-sectional survey. In 2005 a self-administered postal questionnaire was sent to all GPs in West Lincolnshire Primary Care Trust. The questionnaire investigated perceptions of benefits and disadvantages of benzodiazepines and Z-drugs. Of the 107 questionnaires sent to GPs, 84 (78.5%) analysable responses were received. Responders believed that Z-drugs were more effective than benzodiazepines in terms of patients feeling rested on waking ($P<0.001$), daytime functioning ($P<0.001$), and total sleep time ($P = 0.03$). Z-drugs were also thought to be safer in terms of tolerance ($P<0.001$), addiction ($P<0.001$), dependence ($P<0.001$), daytime sleepiness ($P<0.001$), and road traffic accidents ($P = 0.018$), and were thought to be safer for older people ($P<0.001$). There were significant differences between GPs' perceptions of the relative benefits and risk of Z-drugs compared with benzodiazepines. The majority of practitioners attributed greater efficacy and lower side effects to Z-drugs. GPs' beliefs about effectiveness and safety are not determined by current evidence or national (NICE) guidance which may explain the increase in Z-drug prescribing relative to benzodiazepine prescribing.

Keywords

attitude; cross sectional studies; hypnotics and sedatives; physicians' practice patterns; prescriptions.

INTRODUCTION

Most hypnotic prescribing takes place in primary care, and the use and cost of these drugs is rising. There are large variations in hypnotic prescribing,[1] with some areas of the UK having higher levels of benzodiazepine and 'Z-drug' prescribing (hypnotics including zopiclone, zolpidem, and zaleplon) compared with national data.

There are potential side effects of hypnotic drugs, evidence of long-term use contrary to licensed indications, and lack of evidence distinguishing short-acting benzodiazepine and newer Z-drug hypnotics.[2,3] The *National Service Framework for Mental Health*[4] and the National Institute for Health and Clinical Excellence (NICE) in the UK[5] advised monitoring of hypnotic prescribing and a cost-minimisation approach that would tend to favour short-acting benzodiazepine hypnotic use.

Despite NICE guidance, benzodiazepine prescribing rates have continued to fall over the past decade, and there has been a corresponding rise in the use of newer hypnotic drugs for insomnia over the same period.[3] Although there has been considerable research into the attitudes of patients,[6–9] doctors,[10–12] and both[13,14] regarding the use of benzodiazepines, there is limited published research on patients' and

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practitioners' perceptions of Z-drugs.

The aim of this study was to investigate and compare GPs' perceptions of benefits and risks of benzodiazepines and Z-drugs in one large primary care trust. This study was part of a larger study investigating the reasons for variations in hypnotic prescribing and exploring methods for reducing this in a primary care trust.

METHOD

West Lincolnshire Primary Care Trust has 40 general practices serving 214 000 patients. Prescribing of hypnotics is an important quality issue for all primary care organisations. Previous attempts to address prescribing in this area met with resistance to change. To address this the authors decided to explore practitioners' beliefs about hypnotic prescribing. A survey instrument, based on a search of the literature and an adaptation of a previously published instrument, was developed to collect data.[13]

In 2005 a self-administered postal questionnaire was sent to all GPs on the principal (independent practitioner) list of West Lincolnshire Primary Care Trust. The questionnaire focused on practitioners' perceptions of benefits and disadvantages of benzodiazepines and Z-drugs, and preferences for management of insomnia and anxiety. The questionnaire was developed using information from a review of the literature, discussion within the project steering group, and reference to experts in the field.

Returned questionnaires were entered into a spreadsheet according to a predetermined coding frame. Data were analysed using SPSS (version 12.1). Wilcoxon's signed ranking test was used for comparison of groups.

RESULTS

Of the 107 GPs who were sent questionnaires, 84 (78.5%) responded after one reminder. Character istics of these GPs are described in Table 1.

Table 1. Demographic data of GPs.

Characteristics	*n*	(%)
n	84	(100)
Sex		
Male	57	(67.9)
Female	27	(32.1)
Age in years		
25–34	12	(14.3)
35–44	29	(34.5)
45–54	35	(41.7)
55–64	8	(9.5)
≥65	0	(0)
Training status		
Training	14	(16.7)
Non-training	70	(83.3)
Dispensing		
Dispensing	36	(42.8)
Prescribing	48	(57.1)
MRCGP	45	(53.6)
Nurse prescriber in practice	47	(56.0)

Responders perceived that Z-drugs were more effective in terms of patients feeling rested on waking, daytime functioning, and total sleep time, and that they were less likely to lead to side effects, particularly tolerance, addiction, dependence, daytime sleepiness, and road traffic collisions. Z-drugs were also believed to be safer for older patients (Table 2).

DISCUSSION

This was a study investigating prescribing preferences in a single primary care trust. The response rate from GP principals (independent practitioners) was high, adding to the validity of the findings in relation to local prescribing of these drugs. Although caution needs to be taken in generalising the results to other primary care organisations, the results are consistent with national changes in hypnotic prescribing.

There were significant differences between GPs perceptions of the relative benefits and risk of Z-drugs compared with benzodiazepines, with the majority of practitioners attributing greater efficacy and lower side effects to Z-drugs.

Practitioners' beliefs about relative indications, effectiveness, and safety are not determined by current evidence or national (NICE) guidance. Beliefs about evidence can prevent implementation of national guidance. The attitudes of GP responders in favour of Z-drugs help to explain the increase in prescribing of Z-drugs relative to that of benzodiazepines, a national phenomenon that is inconsistent with NICE guidance.

Despite GPs' positive attitudes to guidelines overall,[15] NICE guidance continues to be variable in

How this fits in

The prescribing of Z-drugs continues to rise but that of benzodiazepines is falling. Whereas there has been research on doctors' perceptions of benzodiazepines, little is known about perceptions of Z-drugs or the drugs relative to each other. This study demonstrates that GPs believe that Z-drugs are more effective and safer than benzodiazepines despite published evidence and guidelines to the contrary. This is a potential barrier to implementation of national guidance on hypnotics.

Table 2. GPs' perceptions of benefits and disadvantages of benzodiazepines and 'Z-drugs'.

	Benzodiazepines			Z-drugs			
	Often or very often[a]	Not sure	Rarely or intermittently /never	Often or very often	Not sure	Rarely or intermittently /never	*P*-value[b]
Perception of associated benefits							
Reduced time to get to sleep	61[c]	9	11	63	11	7	0.29
Reduced night-time waking	43	17	21	47	16	18	0.099
Increased total sleep time	31	22	26	38	23	20	0.030[d]
Feelings of being rested on waking	17	31	32	34	26	21	<0.001[e]
Improved daytime functioning	18	24	37	32	25	23	<0.001[e]
Improved overall wellbeing	30	19	31	29	27	25	0.320
Perception of associated side effects							
Tolerance (patient needs increasing doses to maintain effect)	67	9	8	44	18	20	<0.001[e]
Addiction (withdrawal effects on stopping)	69	9	6	42	17	23	<0.001[e]
Dependence (patient reliance on drug)	84	5	5	59	8	15	<0.001[e]
Daytime sleepiness/sedation	49	18	17	17	23	42	<0.001[e]
Confusion	16	23	45	12	22	48	0.063
Cognitive impairment	16	19	47	44	16	22	0.130
Concentration problems	16	20	48	12	25	45	0.330
Falls	21	15	48	15	17	49	0.077
Hip fractures	17	17	49	15	15	21	0.200
Road traffic collisions	16	29	38	12	24	46	0.018[d]
Side effects more frequent in older patients	64	8	12	44	16	22	<0.001[e]

[a]*Often or very often perceived as associated with the drug.* [b]*Wilcoxon's signed ranking test.* [c]*Number out of 84, missing values account for totals less than 84.* [d]*Significant at* P*<0.05 level.* [e]*Significant at* P*<0.01 level.*

its implementation.[16] Guidance has led to changes in prescribing of some drugs, and has been supported when it is consistent with previous practice.[17] There is limited research into the effect of guidance based on new evidence that discourages past patterns of behaviour, as in this study which examined increasing use of Z-drug hypnotics. A number of factors have been identified as influencing adherence to prescribing guidance in general practice including relative safety, efficacy, practicability, and information conflicting with guidance, most importantly from the pharmaceutical industry.[18]

The targeted use of commercial techniques[19] and meetings supported by pharmaceutical companies[20] to proffer selected positive information about products early in their marketing, affects the attitudes of doctors and their prescribing behaviour.[21–23] Despite professional concerns about the credibility of such information[24] and the perceived immunity of some doctors to commercial influence,[25] practitioners[26] and their patients[27] know that prescribing is being unduly influenced.

A number of approaches could be used to implement the NICE guidance and reverse current non-evidence-based trends in relation to hypnotic prescribing. Options include delivering a clearer message related to outcomes, communicating effectively using opinion leaders and other evidenced techniques, and enabling doctors and patients to understand the true relative advantages, disadvantages, and consequences of using these drugs[28] and of non-pharmacological treatments. A clearer structural context is needed in health trusts supportive of implementation.[17] Further research should investigate the relationship between prescribers' attitudes and actual prescribing, and examine how to change attitudes and behaviour to improve performance. GPs need to be aware of and discuss these beliefs in the context of available evidence to make informed and collaborative decisions about their prescribing practices for insomnia.

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Ethics committee

Approval was granted by Lincolnshire Research Ethics Committee Q4/Q2405/49 and research governance approval by West Lincolnshire Primary Care Trust

Competing interests

The authors have stated that there are none

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